ACIC

OCR

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY



S-E-C-R-E-T

50X1-HUM

COUNTRY USSR (Taymyr National Okrug)

REPORT

SUBJECT Industrial Development in Norilsk Including Construction of Rumored AE Plant

DATE DISTR. 9 February 1960

NO. PAGES 5

REFERENCES RD

DATE OF INFO.

PLACE & DATE ACQ.

50X1-HUM

50X1-HUM

SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

1. The accelerated and extensive expansion of Norilsk began after World War II and was the result of industrial development. The city was built in the shape of a 30 to 40 km strip from north to south with a maximum east-west width of eight km. In 1957, Norilsk had a population of approximately 200,000 (exclusive of the numerous prisoners in nearby camps). In 1954, there were 34 labor camps near Norilsk, each of which had from 4,000 to 7,000 inmates, the majority being political offenders. Some prisoners were released after the death of Stalin, but the old camps were still in existence in 1957, and even some new camps had been built.

2. From 1954 to 1957, there was no restriction of "free" persons to and from Norilsk, and no permits were required. However, in April or May 1957, Norilsk was declared a closed area; despite the acute shortage of labor, no one could enter or leave the city without a permit from the MVD.

3. The industrial life of Norilsk centered around its copper mines and related factories, which together made up the Zvyenyagin Mining and Metallurgical Combine (Gorno-metalurgicheskiy kombinat imeni Zvyenyagina). The two subterranean mines were designated No. 7/9 and No. 3/6, while the open cast mine was designated ROR (rudnik otkrytykh rabot). No. 7/9 was the larger of the two subterranean mines, and in 1954 the production was 1500 cu. m. of ore per 8-hour shift (1,000 miners per shift). The total personnel employed at No. 7/9 in 1954 was approximately 5,000, which included 3,000 miners and 2,000 surface (administrative and technical) personnel. The ROR was even larger: the production in 1954 was 8,000 - 10,000 cu. m. of ore per shift, and only two shifts were worked.

4. The three mines adjoined each other and covered a hilly area measuring 2 x 2.5 km. and had been worked since 1947/48. According to geologists' estimates, the mines were very rich and could be exploited for 50 percent pure copper ore for a period of 50 years. Only the rich veins were being exploited; the less rich (containing concentrations of 15-20 percent ore) were worked only

S-E-C-R-E-T

| STATE | X | ARMY | X | NAVY | X | AIR | X | NSA | X | NPIC | X | NIC | X | AEC | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | ORR/EV | X |

(Note: Washington distribution indicated by "X"; Field distribution by "#".)

50X1-HUM

INFORMATION REPORT INFORMATION REPORT

to the extent required by the overall plan. The yield of the poorer veins was not processed, but was piled in large uncovered dumps near the ore dressing plant.

5. The ore dressing plant was located at the foot of the hills, approximately 300 meters from the entrance to Mine No. 7/9, and its approximate dimensions were 500 meters long, 60 meters wide, and 40 meters high. The brick walls were removable, the foundation was made of concrete, and the flat roof was made of slabs of a type of concrete which was not affected by changes in temperature. In 1951 the plant was capable of processing the entire output of copper ore, and its ultimate capacity was to exceed that of 1951 by approximately 40 percent. All the plant electrical and mechanical equipment was of American manufacture. When some of the flotation tubs had to be replaced, Plant No. 1 in Leningrad produced 200 to 300 tubs modeled on the American product; however, when the tubs arrived at the plant in 1951, via Dudinka harbor, they proved to be unserviceable, and some of the flotation sections of the plant were not in operation in 1954. The American electrical equipment was still operating in 1957 without any breakdowns and without having to be replaced.

6. The minerals contained in the ores were pumped in liquid form from the ore dressing plant through surface pipes 500 mm. in diameter to the appropriate copper and nickel factories. The nickel factories were grouped in the Prom-Ploshchadka area.

7. The copper plant (Medoplavilnyy zavod), along with the ore dressing plant, was the most important enterprise of the Zvyenyagin combine and was constantly being enlarged. Destined to become the largest copper plant in the USSR, in 1957 it consisted of a coal combing plant (Pileugolnaya fabrika), the main factory building, a converter section (Konvertornoye otdeleniye), a compressor section (Kompressornoye otdeleniye), a chemical laboratory, a schist section (Shkhtovoye otdeleniye), a transformer station, and an administration building. Crushed coal was piped by air pressure from the coal combing plant to the electric reverberatory furnaces main plant building. The plant had two such furnaces in 1957, each made of refractory and chromium magnesite bricks and each measuring 20 meters long, 10 meters wide, and 2.5-3 meters high. Existing plans for the plant called for six such furnaces, and foundations for two additional furnaces had been laid in 1957, the foundation for each requiring 5000 cu. meters of concrete. The control instruments (Releynaya avtomatika) for the exising furnaces included German-made components. The main factory building had a mobile suspension crane with a lift capacity of 100 tons. Four shifts were worked at the plant, and workers wore protective masks.

8. The principal products of the Zvyenyagin combine were copper and nickel. For nine or ten months of the year, these and other metals (chromium, vanadium, cobalt, barytes, and gold) were sent by rail to Dudinka and shipped from there by boat to the mainland during the two or three months yearly when navigation was possible. However, the production of the combine increased to such an extent that plans to build a rail line from Norilsk to Krasnoyarsk were revived. This project was initiated years ago at Krasnoyarsk, but was terminated after the first 200 or 300 miles had been built. According to hearsay, construction of the line was resumed in 1957.

9. The Zvyenyagin combine was supplied with power by the Norilsk thermal station, which used six 50-ton carloads every 30 minutes. The coal was brought to the station from the Kaerkan mine. The coal reserve at the station did not exceed the amount required for 48 hours of operation. The total capacity of the station was not known, but it did have six or seven large generators, one of which (of Japanese make) was brought to Dudinka in 1947 and whose stator weighed 90 tons.

10. In 1948 a large consignment of equipment for a secret plant in Norilsk arrived at Dudinka, designated Yakovenko equipment. 50X1-HUM

The equipment included thick sheet iron for balloon-shaped tanks with a diameter of eight meters, 60 carloads of iron and copper pipes six to eight meters long and of various diameters, and numerous sealed boxes of blueprints. The entire consignment was stored apart in Dudinka harbor and soon afterward taken to Norilsk. The number of the plant was not known, but the inhabitants of Norilsk called it the "smart plant" (Khitryy Zavod), and the plant was rumored to be an atomic installation.[1] The plant was located on a hill approximately one km from Prom-Ploshchadka and, as far as could be discerned from a distance, consisted of a number of two-and three-story buildings. It had a prominent white stack over 35 meters tall, with a far greater diameter than that of an ordinary factory, but no smoke was observed. The plant was connected by pipes with Plant No. 25, a chemical plant, but it did not have a rail spur. Only "free" workers who were either Party or Komsomol members were employed at the plant. They lived in special apartments in the Gorstroy quarter in the center of Norilsk, went to and from work in special buses, and received double or triple wages in comparison with other workers in Norilsk. The plant began operations in 1951/52.

11. The Norilsk airfield was unusable during July and August, particularly for heavy aircraft, but in winter it provided the only means of communication between Norilsk and Krasnoyarsk. Prior to 1957 the airfield had no paved runways, but construction of a concrete runway five km long was initiated in 1957 and, according to hearsay, would be suitable for TU-114 aircraft. In 1957 the only installations at the airfield consisted of a small two-story building (containing a passenger waiting room, a radio and meteorological station), small warehouse, an aircraft repair shop, and several residential buildings.

12. A jet fighter unit arrived in Norilsk in 1957 following the sighting of a foreign aircraft over the town. Prior to the arrival of this unit, the only military unit in the city was a small MVD detachment which provided guard duty at the prison camps.

13. Other than melted snow, the only source of water for both drinking and industrial use was a lake located outside the city (location not known). The central sewerage system of Norilsk was insulated against the cold, and the mains also served as conduits for water pipes and for power and telephone cables.

14. A sketch of Norilsk, showing the locations of the various industrial installations mentioned in this report and as listed below 50X1-HUM

15. Legend to sketch of Norilsk:

1. Reinforced concrete products factory.
2. Broad-gauge rail line.
3. Vokzal Street.
4. Sovkhoz.
5. Residential quarter, formerly the 17-Lag-Otdeleniye.
6. Cobalt plant, consisting entirely of laboratories connected to the copper plant by pipes.
7. Copper plant, with two chimneys.
8. Sulfuric acid factory.
9. Railroad station.

10. Boundaries of the 6-ye Domo-Upravleniye district (one of the city's 24 districts).
11. Primitive residential quarter.
12. Stalin monument.
13. Residential quarter (two-story stone houses).
14. Cemetery.
15. Municipal garbage disposal plant.
16. "80 Kvartal", residential district (two-story stone houses).
17. Zubgora residential quarter, formerly a labor camp.
18. Oktyabrskaya ploshchad (Lenin monument in the center).
19. Square (name not known).
20. Mining and metallurgical combine (five-story building).
21. 7 Sevastopol Street (building containing Gorispolkom, Gorkompartii, Prokuratura, and Voyenkomat offices).
22. Apartment wings of the building at 7 Sevastopol Street.
23. Sotsgorod residential quarter (two-story buildings).
24. Offices of director of the Zvyenyagin combine, the KGB commandant, and first secretary of the city Party committee (three-story building).
25. Residential quarter (three-story buildings).
26. Zvyenyagin combine central warehouses for industrial and food products.
27. "Dram. Zapolarnyy" theater.
28. Power plant.
29. Secret plant.
30. Stacks.
31. Prom.-Ploshchadka complex (nicket plant, machine factory, etc.).
32. Management and administrative offices of the Zvyenyagin (four-story building).
33. Communication office of the Zvyenyagin combine (four-story building).
34. Dom. Kultury Metalurgov, formerly Dom. Inzh. Tekhn. Rabotnikov.
35. Bank (only one in Norilsk).
36. Planning section of the Zvyenyagin combine.
37. Fire station.
38. Residential quarter No. 17.
39. Air force barracks (in use since 1957).
40. Narrow-gauge railroad station.
41. Police station.

42. Primitive residential quarter, formerly the 1-y Lag-Otdeleniye.

43. Residential quarter, formerly the 2-y Lag-Otdeleniye.

44. Copper ore dressing plant.

45. Mine No. 7/9.

46. Mine No. 3/6.

47. ROR open cast mine.

48. Five-story building under construction to house all offices of the Zvyenyagin combine.

49. The Kaerkan mine, largest coal mine in Norilsk.

50. Airfield.

51. Brick factory.

52. Cement and lime factory.

53. Zavod No. 25.

54. Sevastopol Street.

55. Oktyabr Street.

56. Spartak stadium.

57. Residential quarter, formerly a labor camp.

58. Roads under construction.

59. Central fire brigade.

60. Technical supplies warehouses of the Zvyenyagin combine.



61. Public park.

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY



S-E-C-R-E-T

50X1-HUM

COUNTRY USSR (Taymyr National Okrug)

REPORT

SUBJECT Industrial Development in Norilsk Including Construction of Rumored AE Plant

DATE DISTR. 9 February 1960

NO. PAGES 5

REFERENCES RD

DATE OF INFO.

50X1-HUM

PLACE & DATE ACQ.

50X1-HUM

SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

1. The accelerated and extensive expansion of Norilsk began after World War II and was the result of industrial development. The city was built in the shape of a 30 to 40 km strip from north to south with a maximum east-west width of eight km. In 1957, Norilsk had a population of approximately 200,000 (exclusive of the numerous prisoners in nearby camps). In 1954, there were 34 labor camps near Norilsk, each of which had from 4,000 to 7,000 inmates, the majority being political offenders. Some prisoners were released after the death of Stalin, but the old camps were still in existence in 1957, and even some new camps had been built.

2. From 1954 to 1957, there was no restriction of "free" persons to and from Norilsk, and no permits were required. However, in April or May 1957, Norilsk was declared a closed area; despite the acute shortage of labor, no one could enter or leave the city without a permit from the MVD.

3. The industrial life of Norilsk centered around its copper mines and related factories, which together made up the Zvyenyagin Mining and Metallurgical Combine (Gorno-metalurgicheskiy kombinat imeni Zvyenyagina). The two subterranean mines were designated No. 7/9 and No. 3/6, while the open cast mine was designated ROR (rudnik otkrytykh rabot). No. 7/9 was the larger of the two subterranean mines, and in 1954 the production was 1500 cu. m. of ore per 8-hour shift (1,000 miners per shift). The total personnel employed at No. 7/9 in 1954 was approximately 5,000, which included 3,000 miners and 2,000 surface (administrative and technical) personnel. The ROR was even larger: the production in 1954 was 8,000 - 10,000 cu. m. of ore per shift, and only two shifts were worked.

4. The three mines adjoined each other and covered a hilly area measuring 2 x 2.5 km. and had been worked since 1947/48. According to geologists' estimates, the mines were very rich and could be exploited for 50 percent pure copper ore for a period of 50 years. Only the rich veins were being exploited; the less rich (containing concentrations of 15-20 percent ore) were worked only

S-E-C-R-E-T

| STATE | X | ARMY | X | NAVY | X | AIR | X | NSA | X | NPIC | X | NIC | X | AEC | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | ORR/EV | X |

50X1-HUM

(Note: Washington distribution indicated by "X"; Field distribution by "#".)

INFORMATION REPORT INFORMATION REPORT

to the extent required by the overall plan. The yield of the poorer veins was not processed, but was piled in large uncovered dumps near the ore dressing plant.

5. The ore dressing plant was located at the foot of the hills, approximately 300 meters from the entrance to Mine No. 7/9, and its approximate dimensions were 500 meters long, 60 meters wide, and 40 meters high. The brick walls were removable, the foundation was made of concrete, and the flat roof was made of slabs of a type of concrete which was not affected by changes in temperature. In 1951 the plant was capable of processing the entire output of copper ore, and its ultimate capacity was to exceed that of 1951 by approximately 40 percent. All the plant electrical and mechanical equipment was of American manufacture. When some of the flotation tubs had to be replaced, Plant No. 1 in Leningrad produced 200 to 300 tubs modeled on the American product; however, when the tubs arrived at the plant in 1951, via Dudinka harbor, they proved to be unserviceable, and some of the flotation sections of the plant were not in operation in 1954. The American electrical equipment was still operating in 1957 without any breakdowns and without having to be replaced.

6. The minerals contained in the ores were pumped in liquid form from the ore dressing plant through surface pipes 500 mm. in diameter to the appropriate copper and nickel factories. The nickel factories were grouped in the Prom-Ploshchadka area.

7. The copper plant (Medoplavilnyy zavod), along with the ore dressing plant, was the most important enterprise of the Zvyenyagin combine and was constantly being enlarged. Destined to become the largest copper plant in the USSR, in 1957 it consisted of a coal combing plant (Pileugolnaya fabrika), the main factory building, a converter section (Konvertornoye otdeleniye), a compressor section (Kompressornoye otdeleniye), a chemical laboratory, a schist section (Shkhtovoye otdeleniye), a transformer station, and an administration building. Crushed coal was piped by air pressure from the coal combing plant to the electric reverberatory furnaces main plant building. The plant had two such furnaces in 1957, each made of refractory and chromium magnesite bricks and each measuring 20 meters long, 10 meters wide, and 2.5-3 meters high. Existing plans for the plant called for six such furnaces, and foundations for two additional furnaces had been laid in 1957, the foundation for each requiring 5000 cu. meters of concrete. The control instruments (Releynaya avtomatika) for the exising furnaces included German-made components. The main factory building had a mobile suspension crane with a lift capacity of 100 tons. Four shifts were worked at the plant, and workers wore protective masks.

8. The principal products of the Zvyenyagin combine were copper and nickel. For nine or ten months of the year, these and other metals (chromium, vanadium, cobalt, barytes, and gold) were sent by rail to Dudinka and shipped from there by boat to the mainland during the two or three months yearly when navigation was possible. However, the production of the combine increased to such an extent that plans to build a rail line from Norilsk to Krasnoyarsk were revived. This project was initiated years ago at Krasnoyarsk, but was terminated after the first 200 or 300 miles had been built. According to hearsay, construction of the line was resumed in 1957.

9. The Zvyenyagin combine was supplied with power by the Norilsk thermal station, which used six 50-ton carloads every 30 minutes. The coal was brought to the station from the Kaerkan mine. The coal reserve at the station did not exceed the amount required for 48 hours of operation. The total capacity of the station was not known, but it did have six or seven large generators, one of which (of Japanese make) was brought to Dudinka in 1947 and whose stator weighed 90 tons.

10. In 1948 a large consignment of equipment for a secret plant in Norilsk arrived at Dudinka, designated Yakovenko equipment. [redacted] The equipment included thick sheet iron for balloon-shaped tanks with a diameter of eight meters, 60 carloads of iron and copper pipes six to eight meters long and of various diameters, and numerous sealed boxes of blueprints. The entire consignment was stored apart in Dudinka harbor and soon afterward taken to Norilsk. The number of the plant was not known, but the inhabitants of Norilsk called it the "smart plant" (Khitryy Zavod), and the plant was rumored to be an atomic installation.[1] The plant was located on a hill approximately one km from Prom-Ploshchadka and, as far as could be discerned from a distance, consisted of a number of two-and three-story buildings. It had a prominent white stack over 35 meters tall, with a far greater diameter than that of an ordinary factory, but no smoke was observed. The plant was connected by pipes with Plant No. 25, a chemical plant, but it did not have a rail spur. Only "free" workers who were either Party or Komsomol members were employed at the plant. They lived in special apartments in the Gorstroy quarter in the center of Norilsk, went to and from work in special buses, and received double or triple wages in comparison with other workers in Norilsk. The plant began operations in 1951/52.

50X1-HUM

11. The Norilsk airfield was unusable during July and August, particularly for heavy aircraft, but in winter it provided the only means of communication between Norilsk and Krasnoyarsk. Prior to 1957 the airfield had no paved runways, but construction of a concrete runway five km long was initiated in 1957 and, according to hearsay, would be suitable for TU-114 aircraft. In 1957 the only installations at the airfield consisted of a small two-story building (containing a passenger waiting room, a radio and meteorological station), small warehouse, an aircraft repair shop, and several residential buildings.

12. A jet fighter unit arrived in Norilsk in 1957 following the sighting of a foreign aircraft over the town. Prior to the arrival of this unit, the only military unit in the city was a small MVD detachment which provided guard duty at the prison camps.

13. Other than melted snow, the only source of water for both drinking and industrial use was a lake located outside the city (location not known). The central sewerage system of Norilsk was insulated against the cold, and the mains also served as conduits for water pipes and for power and telephone cables.

14. A sketch of Norilsk, showing the locations of the various industrial installations mentioned in this report and as listed below [redacted]

15. Legend to sketch of Norilsk:

    1. Reinforced concrete products factory.

50X1-HUM

    2. Broad-gauge rail line.
    3. Vokzal Street.
    4. Sovkhoz.
    5. Residential quarter, formerly the 17-Lag-Otdeleniye.
    6. Cobalt plant, consisting entirely of laboratories connected to the copper plant by pipes.
    7. Copper plant, with two chimneys.
    8. Sulfuric acid factory.
    9. Railroad station.

10. Boundaries of the 6-ye Domo-Upravleniye district (one of the city's 24 districts).
11. Primitive residential quarter.
12. Stalin monument.
13. Residential quarter (two-story stone houses).
14. Cemetery.
15. Municipal garbage disposal plant.
16. "80 Kvartal", residential district (two-story stone houses).
17. Zubgora residential quarter, formerly a labor camp.
18. Oktyabrskaya ploshchad (Lenin monument in the center).
19. Square (name not known).
20. Mining and metallurgical combine (five-story building).
21. 7 Sevastopol Street (building containing Gorispolkom, Gorkompartii, Prokuratura, and Voyenkomat offices).
22. Apartment wings of the building at 7 Sevastopol Street.
23. Sotsgorod residential quarter (two-story buildings).
24. Offices of director of the Zvyenyagin combine, the KGB commandant, and first secretary of the city Party committee (three-story building).
25. Residential quarter (three-story buildings).
26. Zvyenyagin combine central warehouses for industrial and food products.
27. "Dram. Zapolarnyy" theater.
28. Power plant.
29. Secret plant.
30. Stacks.
31. Prom.-Ploshchadka complex (nicket plant, machine factory, etc.).
32. Management and administrative offices of the Zvyenyagin (four-story building).
33. Communication office of the Zvyenyagin combine (four-story building).
34. Dom. Kultury Metalurgov, formerly Dom. Inzh. Tekhn. Rabotnikov.
35. Bank (only one in Norilsk).
36. Planning section of the Zvyenyagin combine.
37. Fire station.
38. Residential quarter No. 17.
39. Air force barracks (in use since 1957).
40. Narrow-gauge railroad station.
41. Police station.

42. Primitive residential quarter, formerly the 1-y Lag-Otdeleniye.

43. Residential quarter, formerly the 2-y Lag-Otdeleniye.

44. Copper ore dressing plant.

45. Mine No. 7/9.

46. Mine No. 3/6.

47. ROR open cast mine.

48. Five-story building under construction to house all offices of the Zvyenyagin combine.

49. The Kaerkan mine, largest coal mine in Norilsk.

50. Airfield.

51. Brick factory.

52. Cement and lime factory.

53. Zavod No. 25.

54. Sevastopol Street.

55. Oktyabr Street.

56. Spartak stadium.

57. Residential quarter, formerly a labor camp.

58. Roads under construction.

59. Central fire brigade.

60. Technical supplies warehouses of the Zvyenyagin combine.



61. Public park.